January 2003

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Ecuador

Ecuador is important in world energy markets, as one of Latin America's largest crude oil exporters. The country currently is building a second oil export pipeline, which will more than double Ecuador's oil export capacity.

Note: information contained in this report is the best available as of January 2003 and can change.

BACKGROUND

Faced with a plummeting currency (the sucre) and a sharp economic decline (-7% real economic growth in 1999), Ecuador strictly tied the sucre to the U.S. dollar in September 2000, fixing the exchange rate at 25,000 sucres per dollar. Ecuador's economic and political situations, which had been unstable for years, improved following this decision to "dollarize." In addition, strong oil prices, large-scale International Monetary Fund (IMF) assistance, and foreign investment associated with construction of a new oil export pipeline all are helping to boost Ecuador's fortunes, at least in the short run.

For 2002, Ecuador's real gross domestic product (GDP) is estimated to have grown by 2.9%, down from the rapid, 5.4% growth experienced in 2001, but still solid. For 2003, Ecuador's economy is expected to grow by 3.8%, one of the best growth rates in Latin America. Ecuador's inflation rate fell sharply in 2002, to 5.6%, down from 37% in 2001 and 96% in 2000. For 2003, inflation is forecast to fall below 4%. Unemployment remains relatively high, however, at around 15%, and around 70% of the country's population is considered poor. In addition, the country has a very high debt-to-GDP ratio of around 78%.

Ecuador's oil sector accounts for around one-fifth of the country's economy, and is the country's most important source of foreign exchange, ahead of coffee, fish, and bananas. This reliance on oil exports makes Ecuador's

economy vulnerable to sharp fluctuations in oil prices. Ecuador also is vulnerable to any economic downturn in the United States, since remittances from Ecuadorian workers living in the United States are Ecuador's second largest source of foreign exchange earnings (around $1.4 billion in 2001). Meanwhile, revenues from construction of a $1.1 billion heavy oil pipeline (see below) are helping to fund the country's fiscal stabilization fund and to help pay off the country's huge debt.

In December 2001, the IMF disbursed the final $95 million of a $304 million loan package it had agreed to in April 2000. The IMF deal with Ecuador had been conditioned on Ecuador's pursuit of structural reforms (i.e., reduction of domestic fuel subsidies, loosened restrictions on foreign investment). In line with IMF lending guidelines, Ecuador continues to stress structural reform, increased foreign investment, privatization, and fiscal stabilization. Progress in these areas has been slowed by political opposition from unions, indigenous groups, nationalists, and others. Over 90% of foreign investment goes to the oil sector.

In August 2001, Ecuador's Constitutional Court declared that an increase in the country's Value Added Tax (VAT), from 12% to 15%, was unconstitutional. The VAT increase had been strongly supported by the IMF, and by President Noboa, as a means to place Ecuador's finances on a sounder footing. Meanwhile, around 13 foreign oil companies operating in Ecuador have filed lawsuits claiming that they are entitled to a refund of the VAT, and that the Ecuadorian government owes them at least $150 million. Ecuador disputes this, saying that the companies' oil exploration contracts already adequately compensate them for the VAT. In September 2002, the United States extended the Andean Trade Preferences Act to Bolivia, Colombia, and Peru, but not to Ecuador, possibly in reaction to the VAT issue. In December 2002, Ecuador agreed to international arbitration on the VAT dispute.

Ecuador held national elections in October 2002, with a runoff on November 24, and elected leftist former army colonel Lucio Gutierrez as president. Among other things, Gutierrez -- Ecuador's fifth president since 1997 -- has

promised to implement "war economy" measures: expanding social programs, creating jobs, redistributing wealth, ending political corruption, ending many free-market policies, and increasing the state's role in the economy. This platform is in stark contrast to former President Noboa's policies, as well as to IMF guidelines. Since his election, however, Gutierrez has stressed the need for urgent fiscal reform measures, has stated that he will maintain "dollarization," has given assurances that the government will not default on Ecuador's $2.7 billion foreign debt payments due in 2003, and has vowed to cooperate with the IMF. This could mean tough austerity measures and continuation of free-market reforms.

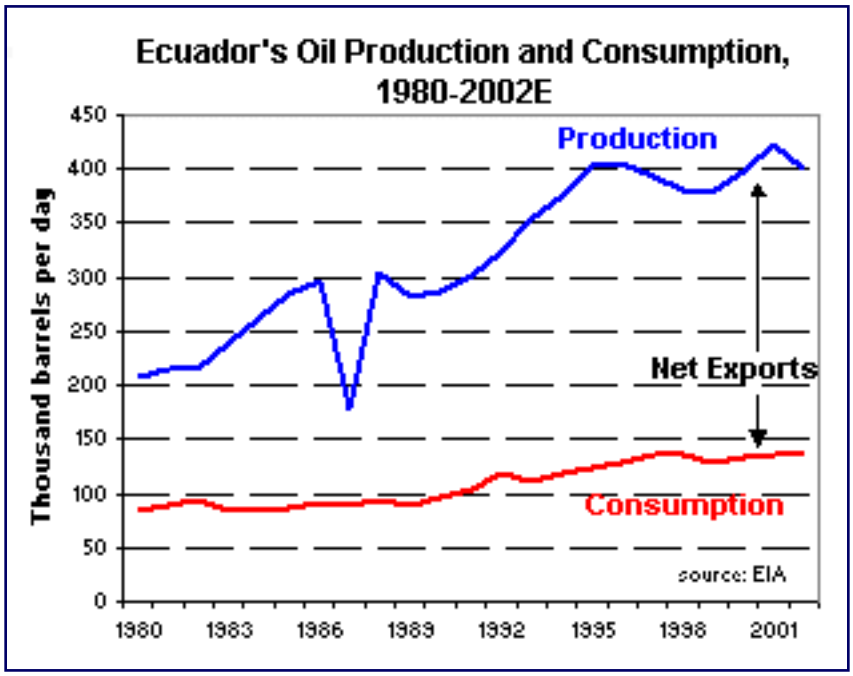
OIL

Since oil was discovered in Ecuador in the 1970s, it has become an increasingly important part of the Ecuadorian economy. The country has 4.6 billion barrels of proven oil reserves, with crude production of around 390,000 barrels per day (bbl/d) during the first 10 months of 2002, down from 422,000 bbl/d in 2001. Of this production, Petroecuador accounts for about 55% of Ecuador's total output, with private companies accounting for the remaining 45% or so. In 2002, Petroecuador reported that its oil output was at a 10-year low point, due mainly to underinvestment and ageing fields. The company hopes to increase production in 2003, but as of September 2002 it reportedly planned to reduce its exploration and production investment budget by more than 40%. Ecuador consumes around 137,000 bbl/d domestically, with the remaining 263,000 bbl/d being exported.

Most of Ecuador's oil reserves are located in the eastern Amazon region, known as the Oriente, with significant new oil deposits suspected to exist in the southeastern Oriente. Major oil fields include: Shushufindi, Sacha, Libertador, Cononaco, Cuyabeno, Lago Agrio, and Auca. Smaller fields include Anaconda, Culebra, and Yulebra. Another field that Ecuador hopes to develop is Palo Azul, located in Orellana province, with potential output of 10,000 bbl/d. Also, in October 2002, Sipetrol, the international unit of Chile's state oil company Enap, signed a contract with Petroecuador to develop four fields -- Paraiso, Biguno, Huachito, and Mauro Davalos Cordero -- at a cost of

$80 million over four years. The fields have estimated reserves of 51 million barrels and possible output of 18,000 bbl/d. Yet another project, at the Eden-Yuturi fields in Block 15, is expected to add 45,000 bbl/d to Ecuador's oil output. Eden-Yuturi is to be developed by Occidental Petroleum, which signed a contract in September 2001. In November 2001, Occidental received approval to build a 100,000-bbl/d pipeline to link Eden-Yuturi to the new OCP heavy oil pipeline (see below for more details).

Petroecuador is attempting to attract foreign investment in the country's largest oil fields, and to boost its production from 230,000 bbl/d (around 60% of national production) today to 600,000 bbl/d by 2005. In early 2001, however, Ecuador's Congress rejected legislation to allow joint ventures, and in December 2000, Ecuador's Constitutional Tribunal rejected a government reform plan which would have allowed private companies to take operational control (not ownership) of Petroecuador's top five oil fields. Meanwhile, Petroecuador is trying to streamline its own operations, is cutting its workforce, and is seeking greater independence over its fiscal and administrative affairs. The company also is planning to step up its marketing efforts internationally, in anticipation of increased exports beginning in 2003. Ecuador's main export market currently is the U.S. West Coast.



In August 2001, Petroecuador released details of a major new oil project aimed at developing the Ishpingo, Tambococha and Tiputini (ITT) oilfields. Combined, the ITT fields contain an estimated 2 billion barrels in heavy oil reserves. Potential output could be as high as 200,000 bbl/d. The project also could involve construction of a plant to upgrade the 14º-16º API gravity crude oil. In May 2002, Petroecuador reported positive results from its

Ishpingo 3 test well at ITT. Petroecuador reportedly would like a private company to invest $3.5 billion in the ITT fields, and reportedly would like to award development rights on the field to a foreign government, which would in turn award the operating contract to a private company. In December 2002, Petroecuador postponed awarding a multi-billion contract for ITT development until after President-elect Gutierrez took office on January 15, 2003.

Ecuador has experienced recurring problems between oil producers and the government on one side, and indigenous peoples on the other. Native tribes inhabit most of the oil-rich Oriente area of Ecuador, and have staged numerous peaceful demonstrations against the Ecuadorian government and oil production policies. In May 2001, U.S. District Judge Jed Rakoff dismissed a $1.5 billion lawsuit filed by Ecuadorian Indians against Texaco for alleged environmental and cultural damages, on the grounds that the cases should be tried in Ecuadorian, not U.S., courts.

On December 18, 2002, Petroecuador announced that it would start accepting offers for the four blocks included in its ninth bidding round, which closes in April 2003. The four blocks offered include Blocks 4 and 5, located onshore in southwestern Ecuador, plus 39 and 40, located offshore in the Gulf of Guayaquil. Total investment of $1 billion is expected on these blocks. Other blocks scheduled to be awarded in 2003 include: Atacapi-Parahuacu, Conanaco-Armadillo, Libertador, Mariann-Cuyabeno, Sasha Norte, and Vista Sur.

In July 2002, Petroecuador reportedly decided that it would stop the practice of awarding oil exploration contracts directly to oil companies without a prior tender process. This move followed accusations by Petroecuador workers of corruption and "irregular actions" by the company. Meanwhile, President Gutierrez has accused the previous government of pre-selling Petroecuador's 2003 exports in order to generate emergency funds during its final months in office. In November 2002, Ecuador's Congress rejected a bill that would have amended the national Hydrocarbons Law. If the bill had passed, it would have

allowed Petroecuador to sign contracts with other state oil companies without holding a bidding process.

In early October 2002, a British oil worker was kidnapped near the village of Sardinas, 60 miles southeast of Quito. In late December, Ecuador's prime minister indicated that the man most likely was murdered. Argentine oil company Techint, which is building an oil pipeline in the area, had offered a $40,000 reward on December 15. In October 2000, Ecuadorian and Colombian police arrested 57 alleged members of a gang that had kidnapped 10 foreign oil workers in the same region. Also, in December 2002, indigenous groups in Pastaza province of the Amazon region took hostage nine oil workers from Argentina's CGC. The groups are demanding that CGC halt work in the area, specifically on Block 23.

Oil Transportation

Oil pipeline infrastructure in Ecuador is the major constraint on increasing Ecuador's oil production. The major pipeline, the Trans-Ecuadorian (SOTE), extends about 300 miles from the Lago Agrio area in the Oriente to the Balao terminal near the port city of Esmeraldas. The pipeline was built in the early 1970s and has been expanded several times since, with capacity reaching 390,000 bbl/d following work completed in June 2000. The SOTE pipeline transports a variety of crude gravities, reflecting the Oriente's wide range of crude production. In early January 2003, Ecuador's government ordered private oil companies to reduce the amount of low-quality, relatively heavy crude oil they move through SOTE by 5%-18% in order to free up room for higher-grade, lighter crude used by the 46,000-bbl/d capacity La Libertad refinery.

In October 2001, villagers cut a valve on the SOTE and threatened to interrupt oil production if their demands (mainly jobs and economic assistance) were not met. In June 2002, SOTE was shut down after villagers in the Amazon province of Napo briefly occupied the El Salado pumping station and shut valves, stopping the flow of oil for a few days. In November 2002, Petroecuador announced that it would reroute the Papallacta-Lago Agrio

section of SOTE due to the danger of landslides following eruption of the Reventador volcano, while another section of the line would be buried.

Construction on a new, 450,000-bbl/d (maximum capacity: 518,000 bbl/d), $1.3 billion, heavy oil pipeline (Oleoducto de Crudos Pesados -- OCP) began in June 2001 after the Ecuadorian government granted permission following months of delays and legal objections. The contract for building and maintaining the pipeline, signed in February 2001, went to a five-company consortium headed by Canada's EnCana (formerly Alberta Energy, with a 31.4% share), and also including Spain's Repsol-YPF (25.7%), Argentina's Perez Companc (15.0%) and Techint (4.1%), U.S.-based Occidental (12.3%) and Kerr-McGee (4.0%), and Italy's Agip (7.5%). Westdeutsche Landesbank, Citibank and JP Morgan Chase also have significant financial roles in the project. Construction on the OCP pipeline is expected to be completed by late 2003, at which point Ecuador's oil transport capacity could increase to as much as 850,000 bbl/d, allowing for significant increases in oil production and export capacity. However, Petroecuador will need to increase oil output in order to fill both OCP and SOTE. Currently, it appears that at least initially, only 250,000 bbl/d of OCP's 450,000-bbl/d capacity will be utilized. Of this amount, an estimated 160,000 bbl/d will represent oil currently transported by SOTE, with perhaps 90,000 bbl/d of new production as well.

The OCP pipeline is to run from oil fields in the eastern Ecuadorian Amazon rainforest region, across the Andes Mountains, to a port on the Pacific Ocean. For most of its length, OCP runs parallel to SOTE, except for a 100-mile stretch near Quito, where OCP takes a different, "northern route." Environmental and indigenous opposition is based on claims that pipeline construction or an accident could do serious harm to one of the world's premier bird sanctuaries, the Mindo Nambillo Cloudforest Reserve, which also is a major destination of ecotourists. The Reserve contains an estimated 450 species of birds, including 12 classified as threatened or near-threatened, as well as other rare species like the spectacled bear. In September 2002, an independent report written by Dr. Robert Goodland, former head of the World Bank's Environmental Department, found that the OCP was in "substantial

non-compliance with....World Bank Group Social and Environmental Safeguard Policies," such as ISO 14000, an international legal requirement for granting environmental licenses. OCP construction has been delayed somewhat by protests by local and international environmental groups, landowners, and others who want to see the pipeline rerouted around Mindo Nambillo. Also, Ecuador's Environment Ministry temporarily suspended the OCP's license in March 2002, following damage to the forest caused by road construction in the area.

A smaller export pipeline was built in the late 1980s, a 25-mile spur off the Transandino to Colombia (OTA). It carries about 45,000 bbl/d of Ecuadorian crude through Colombia to the port of Tumaco. The OTA is the target of frequent Colombian guerrilla bombings and is susceptible to mudslides and mechanical problems. In June 2001, authorities in Colombia arrested 59 people whom police said were responsible for kidnapping 10 foreign oil workers from a camp near the Colombian-Ecuadoran border.

In December 2002, Petroecuador extended the bidding for construction of a $100 million multi-purpose oil products pipeline connecting Guayaquil, Machal, and Cuenca. The project is aimed at making distribution of gasoline, diesel, and LPG more efficient. Currently, these products are transported by road.

In January 2001, an oil tanker spilled around 240,000 gallons of fuel oil near the world-famous, environmentally unique Galapagos Islands. President Noboa declared a state of emergency and called for international assistance. Fortunately, winds and ocean currents dispersed the oil and pushed it away from the threatened islands. In December 2001, about 40 square miles of ocean surrounding the Galapagos Islands were declared a UNESCO natural heritage site as part of an effort to provide long-term protection for the islands. In July 2002, a smaller diesel oil spill took place off the the Galapagos coast, as a study indicated that mortality among marine iguanas had risen alarmingly, likely as a result of the 2001 spill.

NATURAL GAS

Ecuador has only small proven natural gas reserves of 345 billion cubic feet (Bcf). Consequently, there is no natural gas market of any significance in Ecuador, while natural gas produced in association with oil is flared. This could change, however, with the development of fields in the Gulf of Guayaquil and the eastern Oriente region. U.S.-based Noble Affiliates (and its subsidiary, Energy Development Corporation Ecuador Ltd.) has signed a 15-year agreement with Petroecuador to tap the estimated 177 billion cubic feet (Bcf) of recoverable gas reserves of the Amistad field in Block 3 of the Gulf of Guayaquil. As of November 2001, Noble reportedly was looking for a partner to help it develop Amistad. In July 2001, the Amistad 7 well tested at 19.4 million cubic feet per day. Ecuador also is attempting to increase recovery of associated natural gas from the Sacha and Shushufindi oilfields.

ELECTRICITY

In 2000, Ecuador had an installed electric power capacity of about 3.5 million kilowatts, with power generation of 10.4 billion kilowatthours (bkwh). About 75% of Ecuador's electricity generation in 2000 was hydropower, and the remainder was primarily oil-fired. Roughly 50%-65% of the country's electricity comes from one hydroelectric plant, Paute, making the country vulnerable to disruptions there, particularly during the country's driest time of year (October-November). In early October 2001, for instance, Ecuador's government declared a state of emergency in the country's electricity sector due to a severe drought which has reduced production at the countries' hydroelectric power plants, including Paute.

Meanwhile, Ecuador's power demand is growing rapidly, around 4%-5% per year, but generation capacity, transmission and distribution infrastructure are having trouble keeping pace. Many people remain without access to electricity, and demand is increasing in areas that are electrified. In addition, there has been insufficient capital for maintenance, and as a result the power grid is in very poor condition, with transmission losses as high as 35%. In November 2001, the World Bank approved a $23 million loan to support Ecuador's efforts at modernizing and expanding the country's electric power

and telecommunications services. Overall, Ecuador estimates that it might need more than $4 billion, much of which will need to come from foreign investors, to upgrade its power sector.

New generating capacity is being added, including a $90 million, 130-megawatt (MW), simple cycle, natural-gas-fired plant near Machala which began operation in September 2002. Machala is powered by natural gas piped from the Amistad field in the Gulf of Guayaquil; this gas will allow for expansion to 207 MW by mid-2004 and 312 MW by mid-2005. The plant, Ecuador's first natural gas-fired commercial generating facility, is being run by Machala Power, a subsidiary of Houston-based Energy Development Corporation (EDC), and will supply power to Guayaquil, the largest city in Ecuador. Machala will help Ecuador avoid power outages during dry periods, when hydroelectric power output is low.

In another effort aimed at averting dry-season power shortages, Ecuador has awarded a contract to build a backup reservoir and small hydropower plant south of Paute. The facility, known as Mazar, will cost $500 million and have a power generating capacity of 186 MW. In November 2002, Conelec, the national electric power regulator, suspended a concession that had been awarded to a Spanish consortium led by Union Fenosa, to build the plant, reportedly due to irregularities in the contract (according to World Markets Analysis).

Privately-financed projects undertaken to augment the electricity infrastructure include constructing a 230-kilovolt line to link Milagro and Machala on the Pacific coast, linking the northern and southern parts of the country, and linking a new hydropower station into the central coastal grid. These projects should improve existing interconnections with Colombia and make possible interconnection projects with Peru.

In September 2001, energy ministers from Ecuador, Colombia, Peru, and Venezuela signed an agreement on integrating their three countries' power grids. Along with Bolivia, these countries make up the Comunidad Andina de

Naciones (CAN) group. In November 2002, Peru announced that it would begin exporting electricity, via a new $15 million, 120-MW transmission line, to Ecuador beginning in late 2004. Also, in December 2002, Ecuador and Colombia completed work on a 260-MW, 131-mile power line connecting those two countries, although startup has now been delayed until January 30 due to system integration glitches.

Restructuring

In 1961, Ecuador's 22 regional power companies were joined in the *Instituto Ecuatoriano de Electrification* (INECEL), which controlled generation, transmission, and distribution of electricity in Ecuador until 1998. INECEL has now split into six generation companies (HidroPaute, HidroAgoyan, HidroPucara, TermGuayas, TermoPichincha, and TermoEsmeraldas), one transmission company (Transelectric), and 19 distribution companies. These companies are owned by *Fondo de Solidaridad*, the newly created Solidarity Fund.

In May 2002, the sale of Emelec, a state-owned electric distributor in the Guayaquil area, and Ecuador's largest utility, was canceled by Conelec, marking the latest setback in Ecuador's power privatization program. In March 2002, President Noboa had suspended the auction of 10 state electric power distributors in the Amazon and Andean regions due to opposition from local government authorities. Privatization of the distributors has been delayed several times, in part due to opposition from labor unions and Indian rights organizations. Also, in October 2001, the country's Constitutional Tribunal ruled that sale of the 17 power distributors would be illegal (the government rejected the ruling, leaving the situation uncertain).

In preparation for privatization, power subsidies theoretically are slated to end, increasing the consumer electricity price. Ecuadorians pay an estimated less than 30% of the actual cost of their electricity. However, fears of social unrest and mass protests by indigenous organizations have stalled this process as well, with President Noboa announcing in April 2002 that any rate hikes would be postponed until the end of his term in office.

On March 20, 2002, Ecuador's Congress passed a resolution rejecting the privatization of the country's power sector, and called on the government to heed a Constitutional Court ruling that had voided a measure allowing the sale of public assets. In mid-March, President Noboa had withdrawn 10 power companies (out of 17 total) from the auction scheduled for April 12, but opponents of privatization -- including indigenous organizations, unions, local governments, and others -- continued to demand that the entire plan be scrapped.

COUNTRY OVERVIEW

President: Lucio Gutierrez Borbua (since January 2003)
Independence: May 24, 1822 (from Spain)
Population (2002E): 13.1 million
Location/Size: Northwestern South America, 105,037 sq. mi., slightly smaller than Nevada
Major Cities: Quito (capital), Guayaquil, Cuenca, Machala, Portoviejo, Manta, Ambato, Santo Domingo, Esmeraldas
Languages: Spanish (official), Quechua and other Indian languages
Ethnic Groups: Mestizo (mixed Spanish and Indian, 55%), Amerindian (25%), Spanish (10%), Black (10%)
Religion: Roman Catholic (95%)

ECONOMIC OVERVIEW

Minister of Economy and Finance: Mauricio Pozo
Currency: Sucre/U.S. Dollar
Official Exchange Rate (1/27/03): $1 = 25,000 sucres
Gross Domestic Product (GDP, 2002E): $20.2 billion
Real GDP Growth Rate (2002E): 2.9% **(2003F):** 3.8%
Inflation Rate (CPI, 2002E): 5.6% **(2003F):** 3.6%
Unemployment Rate (2002E): around 15%
Merchandise Exports (2002E): $4.9 billion
Merchandise Imports (2002E): $5.3 billion

Current Account Balance (2002E): -$1.4 billion (-6.9% of GDP)
Major Trading Partners: United States, Colombia, Peru, Venezuela, Chile, Italy, Brazil
Major Export Products (2000E): Crude oil (44%), bananas (27%), shrimp (6%)
Major Import Products (2000E): Raw materials (45%), capital goods (25%), consumer goods (22%)
Total External Debt (2002E): $18.9 billion

ENERGY OVERVIEW

Minister of Energy and Mines: Carlos Arboleda
Proven Oil Reserves (1/1/03E): 4.6 billion barrels
Oil Production (2002E): 400,000 barrels per day (bbl/d), of which 390,000 bbl/d was crude oil
Oil Consumption (2002E): 137,000 bbl/d
Net Oil Exports (2002E): 263,000 bbl/d
Crude Oil Refining Capacity (1/1/03E): 176,000 bbl/d
Natural Gas Reserves (1/1/03E): 345 billion cubic feet (Bcf)
Natural Gas Production (2000E): 5 Billion cubic feet (Bcf)
Natural Gas Consumption (2000E): 5 Bcf
Recoverable Coal Reserves (1996E): 26 million short tons (MMST)
Coal Production and Consumption (2000E): None
Electric Generation Capacity (2000E): 3.5 million kilowatts
Electricity Generation (2000E): 10.4 billion kilowatthours (about 75% hydroelectric)

ENVIRONMENTAL OVERVIEW

Minister of Environment: Edgar Isch
Total Energy Consumption (2000E): 0.35 quadrillion Btu (0.1% of world total energy consumption)
Energy-Related Carbon Emissions (2000E): 5.5 million metric tons of carbon (0.1% of world carbon emissions)
Per Capita Energy Consumption (2000E): 27.9 million Btu (vs. U.S. value of 351.0 million Btu)

Per Capita Carbon Emissions (2000E): 0.4 metric tons of carbon (vs. U.S. value of 5.6 metric tons of carbon)
Energy Intensity (2000E): 19,575 Btu/ $1995 (vs. U.S. value of 10,918 Btu/ $1995)**
Carbon Intensity (2000E): 0.30 metric tons of carbon/thousand $1995 (vs. U.S. value of 0.17 metric tons/thousand $1995)**
Sectoral Share of Energy Consumption (1998E): Transportation (32.8%), Industrial (28.4%), Residential (27.2%), Commercial (11.6%)
Sectoral Share of Carbon Emissions (1998E): Transportation (44.8%), Industrial (26.8%), Residential (18.3%), Commercial (10.0%)
Fuel Share of Energy Consumption (2000E): Oil (76.3%), Hydroelectricity (14.7%), Natural Gas (1.3%), Coal (0.0%)
Fuel Share of Carbon Emissions (2000E): Oil (89.5%), Natural Gas (10.2%), Coal (0.0%)
Renewable Energy Consumption (1998E): 115 trillion Btu* (2% decrease from 1997)
Number of People per Motor Vehicle (1998): 22.2 (vs. U.S. value of 1.3)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified February 23rd, 1993). Ratified the Kyoto Protocol on January 13th, 2000).
Major Environmental Issues: Deforestation; soil erosion; desertification; water pollution; pollution from oil production wastes.
Major International Environmental Agreements: A party to the Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and

carbon emissions are also based on IEA data.
**GDP based on EIA International Energy Annual 2000

OIL AND GAS INDUSTRIES

Organization: Petroecuador, formerly CEPE, serves as the holding company for all state-owned petroleum operations.
Foreign Oil Company Involvement: Agip, Alberta Energy Co., Enap, Kerr-McGee, Occidental Petroleum, Perez Companc, Repsol-YPF, Techint.
Major Oil Fields: Shushufindi, Sacha, Libertador, Cononaco, Cuyabeno, Lago Agrio, and Auca. Smaller fields include Anaconda, Culebra, and Yulebra.
Major Refineries (capacity, bbl/d, 1/1/01E): Esmeraldas (110,000), La Libertad (46,000), Shushufindi (20,000)
Major Pipelines (capacity, bbl/d, 2001E): SOTE Transecuadorean (390,000), Transandean to Colombia (45,000)
Major Terminals: Guayaquil, Esmeraldas/Balao, La Libertad, Tumaco (Colombia - for export of 40,000 bbl/d of Lago Agrio crude oil via Trans-Andean pipeline)

Sources for this report include: BMI Latin America Monitor; Business News Americas; CIA World Factbook; Dow Jones News Wire Service; Economist; EFE News Service; Global Power Report; Economist Intelligence Unit (EIU) ViewsWire; Financial Times; Global Insight; International Market Insight Reports; LatAm Energy; Latin American Energy Alert; Latin American Power Watch; Oil and Gas Journal; Oil Daily; Petroleum Economist; Petroleum Intelligence Weekly; Stratfor; U.S. Energy Information Administration; World Markets Analysis.

LINKS

For more information from EIA on Ecuador, please see:
EIA - Historical Energy Data on Ecuador
Summit of the Americas Fact Sheet

Links to other U.S. Government sites:

U.S. Department of Energy's Office of Fossil Energy's International section - Ecuador
CIA World Factbook - Ecuador
U.S. State Department's Consular Information Sheet - Ecuador
U.S Embassy in Quito, Ecuador
U.S. State Department Background Notes on Ecuador
Library of Congress country study on Ecuador

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The Latin American Integration Association (ALADI)
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